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ROOF LOCATION POINTS NOVI 9 – SELMA LAGERLØFTS VEJ 312

Hejselbæk, Johannes

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AALBORG UNIVERSITET

ROOF LOCATION POINTS

NOVI 9 – SELMA LAGERLØFTS VEJ 312

Johannes Hejselbæk



Oktober - 2018

CONTENTS

CONTENTS 1

INTRODUCTION 2

EQUIPMENT 2

REFERENCE SKETCH 3

DATA 4

MAPS 5

AERIAL PHOTOS 7

RAW DATA 9

INTRODUCTION

Objective

The objective of this work is to establish some reference points on the roof of NOVI 9 for use in relation to measurements and other activities needing absolute knowledge of position, elevation and/or orientation.

Method

To ensure the highest possible accuracy and precision of the determination of the location of the chosen reference points the surveyor school at AAU have been consulted. Further, their high-grade equipment has been used for the conducted measurements. This was made possible through the assistance of Anders Otte from the Plan Department.

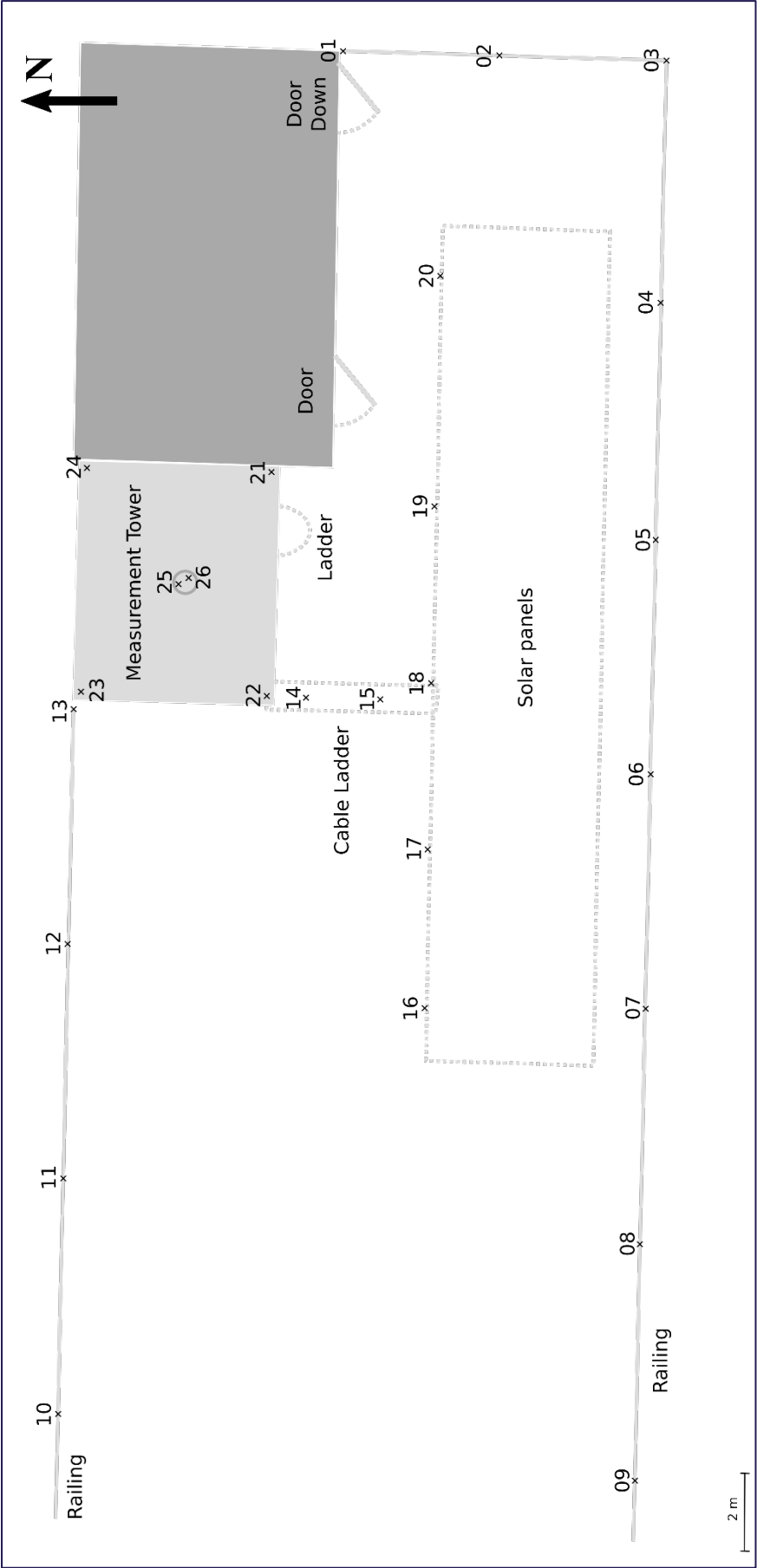
26 reference points have been determined using a surveyor-grade GPS system as described in the following. The distribution of the 26 points is shown in the reference sketch. All the points have been painted with red colour on a white background on non-movable objects on the roof.

EQUIPMENT

The used GPS is a Leica GPS1200 utilizing RTK corrections resulting in an accuracy in the order of centimetres. The measured coordinates are relative to the Universal Transverse Mercator (UTM) zone 32 with European Terrestrial Reference System 1989 (ETRS89) and Danish Vertical Reference 1990 (DVR90).



REFERENCE SKETCH



DATA

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Leica GPS1200 - Output data 21-09-2017

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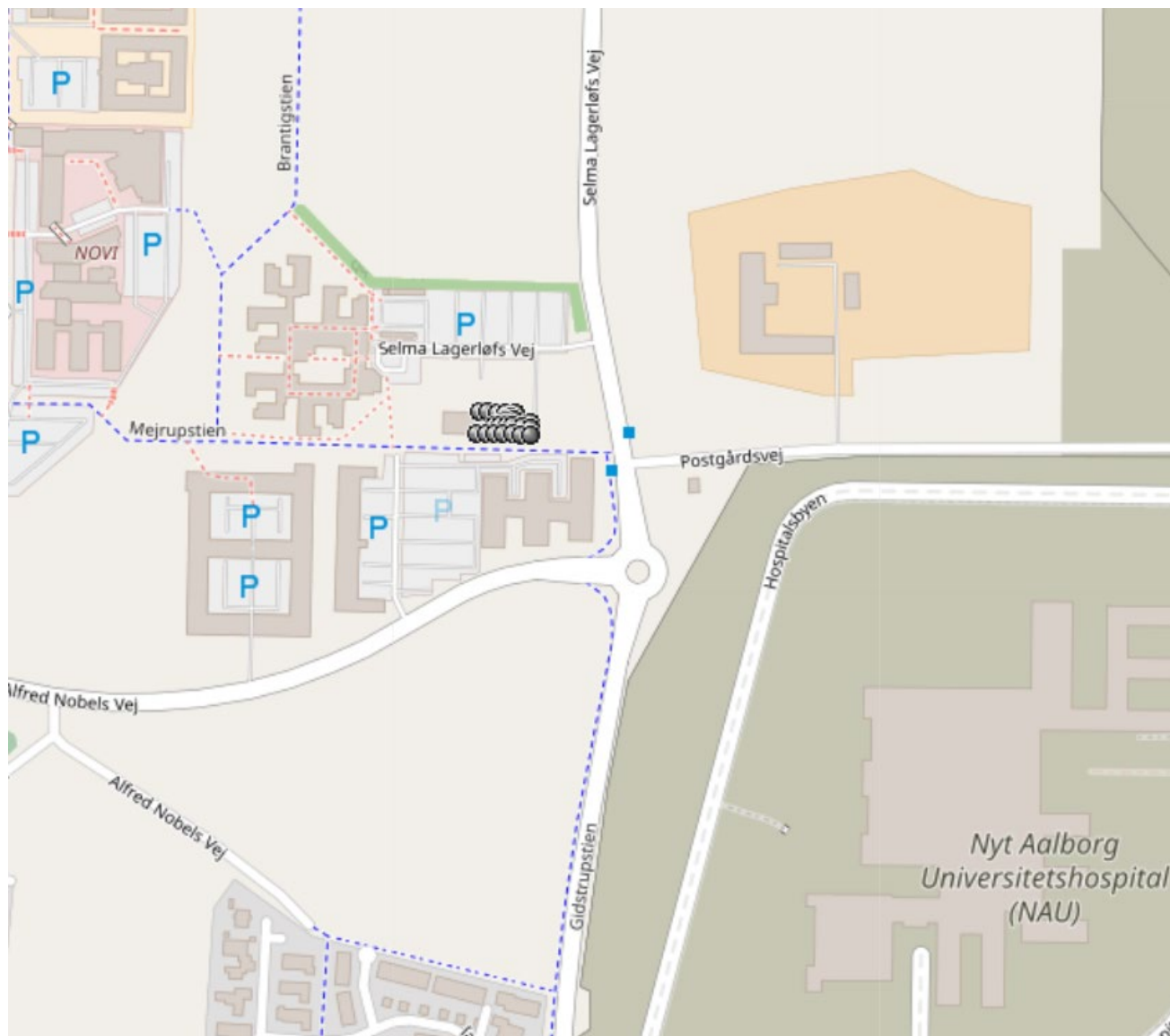
NAME:	EASTING:	NORTHING:	ZONE:	ELEVATION:
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=====

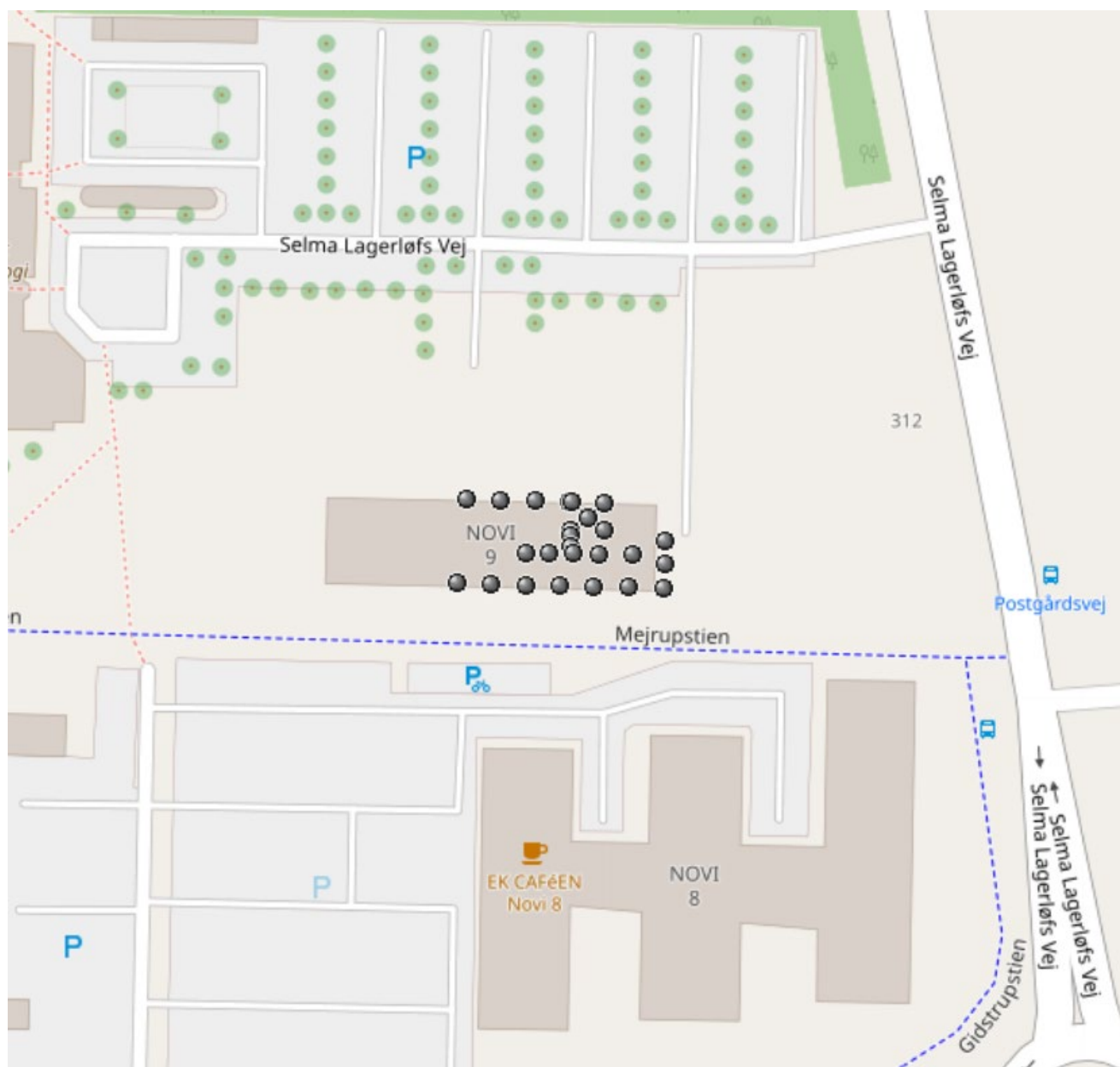
=====

01	560 339,141E	6319 141,328N	32V	40.35 m
02	560 339,103E	6319 137,315N	32V	40.36 m
03	560 339,047E	6319 133,037N	32V	40.35 m
04	560 332,831E	6319 133,085N	32V	40.36 m
05	560 326,754E	6319 133,119N	32V	40.36 m
06	560 320,735E	6319 133,167N	32V	40.35 m
07	560 314,720E	6319 133,224N	32V	40.34 m
08	560 308,694E	6319 133,275N	32V	40.34 m
09	560 302,635E	6319 133,316N	32V	40.34 m
10	560 304,126E	6319 148,110N	32V	40.34 m
11	560 310,169E	6319 148,071N	32V	40.34 m
12	560 316,177E	6319 148,042N	32V	40.34 m
13	560 322,184E	6319 147,981N	32V	40.34 m
14	560 322,573E	6319 142,029N	32V	39.17 m
15	560 322,570E	6319 140,137N	32V	39.17 m
16	560 314,656E	6319 138,891N	32V	39.18 m
17	560 318,723E	6319 138,851N	32V	39.19 m
18	560 322,996E	6319 138,833N	32V	39.19 m
19	560 327,528E	6319 138,807N	32V	39.20 m
20	560 333,430E	6319 138,763N	32V	39.17 m
21	560 328,348E	6319 142,997N	32V	42.80 m
22	560 322,605E	6319 143,052N	32V	42.79 m
23	560 322,655E	6319 147,801N	32V	42.80 m
24	560 328,381E	6319 147,726N	32V	42.80 m
25	560 325,451E	6319 145,336N	32V	42.89 m
26	560 325,596E	6319 145,087N	32V	42.72 m

MAPS



[OpenStreetMap.org]



[OpenStreetMap.org]

AERIAL PHOTOS





RAW DATA

Format Manager 6.0 - 2014-03-06/PCE/KJ

ksys: 9 hsys: 3

Leica GPS1200
Koordinater i UTM zone 32 (ETRS89) og DVR 90

Punkt	E	N	H	Sig E	Sig N	Sig H	PDOP	HDOP	VDOP	Objektkode	Objekt	Liniekode yyyy-mm-dd hh:mm:ss
RTCM-Ref 1437,	560324.695,	6319139.379,	39.285,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	99999.000,	99999.000,	2017-09-04 08:22:44
0001,	560339.141,	6319141.328,	40.355,	0.008,	0.009,	0.021,	1.4,	0.7,	1.2,	-----	-----	2017-09-04 10:44:52
0002,	560339.103,	6319137.315,	40.359,	0.008,	0.009,	0.021,	1.4,	0.7,	1.2,	-----	-----	2017-09-04 10:45:23
0003,	560339.047,	6319133.037,	40.347,	0.008,	0.009,	0.020,	1.4,	0.7,	1.2,	-----	-----	2017-09-04 10:46:05
0004,	560332.831,	6319133.085,	40.362,	0.008,	0.009,	0.021,	1.4,	0.7,	1.2,	-----	-----	2017-09-04 10:46:39
0005,	560326.754,	6319133.119,	40.357,	0.007,	0.008,	0.019,	1.4,	0.7,	1.2,	-----	-----	2017-09-04 10:47:21
RTCM-Ref 1705,	560322.000,	6319133.528,	36.491,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	99999.000,	99999.000,	2017-09-04 10:48:45
0006,	560320.735,	6319133.167,	40.345,	0.007,	0.008,	0.017,	1.6,	0.8,	1.4,	-----	-----	2017-09-04 10:48:59
0007,	560314.720,	6319133.225,	40.338,	0.007,	0.007,	0.017,	1.6,	0.8,	1.4,	-----	-----	2017-09-04 10:49:29
0008,	560308.694,	6319133.275,	40.341,	0.006,	0.007,	0.015,	1.6,	0.8,	1.4,	-----	-----	2017-09-04 10:50:02
0009,	560302.635,	6319133.316,	40.337,	0.005,	0.006,	0.014,	1.6,	0.8,	1.4,	-----	-----	2017-09-04 10:50:39
0010,	560304.126,	6319148.110,	40.337,	0.005,	0.005,	0.013,	1.6,	0.8,	1.4,	-----	-----	2017-09-04 10:51:22
0011,	560310.169,	6319148.071,	40.337,	0.005,	0.005,	0.013,	1.6,	0.8,	1.4,	-----	-----	2017-09-04 10:51:52
0012,	560316.177,	6319148.042,	40.339,	0.005,	0.006,	0.013,	1.6,	0.8,	1.4,	-----	-----	2017-09-04 10:52:20
0013,	560322.184,	6319147.981,	40.339,	0.006,	0.006,	0.015,	1.6,	0.8,	1.4,	-----	-----	2017-09-04 10:52:44
RTCM-Ref 1714,	560322.600,	6319141.842,	37.119,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	99999.000,	99999.000,	2017-09-04 10:54:20
0014,	560322.573,	6319142.029,	39.171,	0.008,	0.011,	0.024,	1.8,	0.9,	1.6,	-----	-----	2017-09-04 10:54:35
0015,	560322.570,	6319140.137,	39.165,	0.005,	0.006,	0.016,	1.7,	0.9,	1.5,	-----	-----	2017-09-04 10:55:06
0016,	560314.656,	6319138.891,	39.180,	0.005,	0.005,	0.013,	1.5,	0.7,	1.3,	-----	-----	2017-09-04 10:55:47
0017,	560318.723,	6319138.852,	39.186,	0.005,	0.006,	0.014,	1.6,	0.8,	1.4,	-----	-----	2017-09-04 10:56:12
RTCM-Ref 1720,	560322.991,	6319138.802,	39.220,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	99999.000,	99999.000,	2017-09-04 10:56:59
0018,	560322.996,	6319138.833,	39.186,	0.005,	0.006,	0.015,	1.6,	0.8,	1.4,	-----	-----	2017-09-04 10:57:12
0019,	560327.528,	6319138.807,	39.197,	0.006,	0.007,	0.018,	1.5,	0.8,	1.3,	-----	-----	2017-09-04 10:57:33
0020,	560333.430,	6319138.763,	39.170,	0.005,	0.006,	0.016,	1.7,	0.8,	1.5,	-----	-----	2017-09-04 10:58:01
0021,	560328.348,	6319142.997,	42.797,	0.005,	0.007,	0.016,	1.5,	0.7,	1.3,	-----	-----	2017-09-04 10:59:43
0022,	560322.605,	6319143.052,	42.794,	0.005,	0.007,	0.015,	1.5,	0.7,	1.3,	-----	-----	2017-09-04 11:00:08
0023,	560322.655,	6319147.801,	42.796,	0.005,	0.006,	0.014,	1.5,	0.7,	1.3,	-----	-----	2017-09-04 11:00:33
0024,	560328.381,	6319147.726,	42.799,	0.005,	0.006,	0.013,	1.5,	0.7,	1.3,	-----	-----	2017-09-04 11:01:02
RTCM-Ref 1731,	560325.297,	6319147.131,	42.116,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	99999.000,	99999.000,	2017-09-04 11:01:54
RTCM-Ref 1738,	560325.845,	6319149.381,	44.301,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	99999.000,	99999.000,	2017-09-04 11:04:14
0025,	560325.451,	6319145.337,	41.196,	0.008,	0.016,	0.026,	3.3,	1.8,	2.8,	-----	-----	2017-09-04 11:10:36
RTCM-Ref 1763,	560327.109,	6319143.394,	39.544,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	99999.000,	99999.000,	2017-09-04 11:20:14
0026,	560324.051,	6319145.963,	42.888,	0.424,	0.566,	1.096,	1.5,	0.7,	1.3,	-----	-----	2017-09-04 11:26:39
RTCM-Ref 1776,	560326.855,	6319145.510,	38.595,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	99999.000,	99999.000,	2017-09-04 11:28:19
0027,	560325.596,	6319145.087,	42.716,	0.008,	0.010,	0.019,	1.8,	1.0,	1.5,	-----	-----	2017-09-04 11:28:37